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Applicant: Cho-Chung

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Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. § 1.132 OF
YOON S. CHO-CHUNG, M.D., PH.D.**

I, Yoon S. Cho-Chung, do hereby declare:

1. I am the inventor of the subject matter disclosed and claimed in the referenced patent application.
2. The data generated below were generated under my supervision.
3. ECPKA activity levels were measured in a variety of cancer cells using the PKA assay disclosed in the subject application (see, e.g., Example 1). The results of this experiment are set forth in Exhibit A. Several different carcinoma cell types were tested, along with three sarcoma cell lines (see e.g., Exhibit A at pages 2 and 4). ECPKA activity was elevated in each sarcoma sample, as compared to the average ECPKA level of 12.2 mU/ml observed in normal cells.
4. I hereby declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United

States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 8-30-2005



Yoon S. Cho-Chung, M.D., Ph.D.

EXHIBIT A

**From Dr. Susan Bates
1-13-2000 (received)**

Samples

| No | Samples | Ca. | (CPM) | | | Mean | | Net | PKA mU/ml |
|-----|-----------------------|--------|-------|------|------|------|------|------|---------------|
| | | | I.D. | (-) | (+) | (-) | (+) | | |
| 99 | adenocystic | M38502 | 1266 | 1020 | 512 | 542 | 1143 | 527 | 616 40.7 |
| 91 | bladder | M37629 | 1613 | 1480 | 963 | 675 | 1547 | 819 | 728 48.0 |
| 123 | breast adenocarcinom | M40193 | 1504 | 1666 | 591 | 827 | 1585 | 709 | 876 57.8 |
| 76 | cholangiocarcinoma | M36702 | 867 | 1011 | 557 | 533 | 939 | 545 | 394 26.0 |
| 20 | colon | M32830 | 1488 | 1479 | 876 | 858 | 1484 | 867 | 617 40.7 |
| 32 | colon | M33708 | 1356 | 1359 | 542 | 511 | 1358 | 527 | 831 54.9 |
| 37 | colon | M34057 | 2194 | 1794 | 1391 | 1407 | 1994 | 1399 | 595 39.3 |
| 38 | colon | M34119 | 1070 | 984 | 465 | 528 | 1027 | 497 | 531 35.0 |
| 41 | colon | M34347 | 1165 | 1138 | 767 | 726 | 1152 | 747 | 405 26.7 |
| 51 | colon | M35221 | 2167 | 2090 | 1060 | 1209 | 2129 | 1135 | 994 65.6 |
| 53 | colon | M35236 | 1647 | 1671 | 768 | 699 | 1659 | 734 | 926 61.1 |
| 54 | colon | M35362 | 1098 | 1332 | 734 | 898 | 1215 | 816 | 399 26.3 |
| 58 | colon | M35615 | 2702 | 2960 | 493 | 720 | 2831 | 607 | 2225 146.9 |
| 59 | colon | M35633 | 1446 | 1457 | 588 | 575 | 1452 | 582 | 870 57.4 |
| 63 | colon | M35803 | 1960 | 2044 | 759 | 879 | 2002 | 819 | 1183 78.1 |
| 64 | colon | M35929 | 1663 | 1477 | 694 | 777 | 1570 | 736 | 835 55.1 |
| 67 | colon | M36078 | 1149 | 992 | 733 | 610 | 1071 | 672 | 399 26.3 |
| 69 | colon | M36253 | 1393 | 1619 | 813 | 756 | 1506 | 785 | 722 47.6 |
| 74 | colon | M36502 | 1506 | 1981 | 884 | 812 | 1744 | 848 | 896 59.1 |
| 75 | colon | M36669 | 2091 | 1938 | 778 | 801 | 2015 | 790 | 1225 80.9 |
| 77 | colon | M36734 | 1291 | 1768 | 845 | 823 | 1530 | 834 | 696 45.9 |
| 83 | colon | M37133 | 1468 | 1451 | 749 | 734 | 1460 | 742 | 718 47.4 |
| 88 | colon | M37506 | 1523 | 1825 | 554 | 543 | 1674 | 549 | 1126 74.3 |
| 98 | colon | M38428 | 1779 | 1929 | 745 | 741 | 1854 | 743 | 1111 73.3 |
| 103 | colon | M38696 | 1057 | 891 | 542 | 542 | 974 | 542 | 432 28.5 |
| 106 | colon | M38925 | 2469 | 1989 | 754 | 865 | 2229 | 810 | 1420 93.7 |
| 109 | colon | M39044 | 1386 | 1803 | 702 | 745 | 1595 | 724 | 871 57.5 |
| 116 | colon | M39491 | 1757 | 1707 | 612 | 648 | 1732 | 630 | 1102 72.8 |
| 118 | colon | M39752 | 1677 | 1487 | 703 | 714 | 1582 | 709 | 874 57.7 |
| 135 | colon | M41110 | 1780 | 1369 | 465 | 668 | 1575 | 567 | 1008 66.5 |
| 137 | colon | M41249 | 1932 | 1288 | 794 | 746 | 1610 | 770 | 840 55.5 |
| 135 | colon | M41110 | 1780 | 1369 | 465 | 668 | 1575 | 567 | 1008 66.5 |
| 137 | colon | M41249 | 1932 | 1288 | 794 | 746 | 1610 | 770 | 840 55.5 |
| 125 | gastric adenocarcinom | M40339 | 1245 | 1196 | 511 | 536 | 1221 | 524 | 697 46.0 |

| | | | | | | | | | |
|-------------------|--------|------|------|------|------|------|------|------|------|
| 12 hepatoblastoma | M31946 | 1326 | 1321 | 781 | 828 | 1324 | 805 | 519 | 34.3 |
| 52 hepatocellular | M35234 | 1591 | 1838 | 629 | 653 | 1715 | 641 | 1074 | 70.9 |
| 94 leiomyosarcoma | M37702 | 1543 | 1542 | 618 | 682 | 1543 | 650 | 893 | 58.9 |
| 31 liposarcoma | M33702 | 1773 | 1429 | 706 | 727 | 1601 | 717 | 885 | 58.4 |
| 1 lung | M27795 | 1639 | 1310 | 897 | 784 | 1475 | 841 | 634 | 41.9 |
| 10 lung | M31464 | 1749 | 1372 | 777 | 790 | 1561 | 784 | 777 | 51.3 |
| 46 lung | M34780 | 1784 | 1777 | 600 | 626 | 1781 | 613 | 1168 | 77.1 |
| 57 lung | M35511 | 1167 | 1464 | 777 | 822 | 1316 | 800 | 516 | 34.1 |
| 68 lung | M36155 | 1334 | 1401 | 713 | 739 | 1368 | 726 | 642 | 42.4 |
| 87 lung | M37434 | 2407 | 1803 | 837 | 983 | 2105 | 910 | 1195 | 78.9 |
| 62 lymphoma | M35760 | 1070 | 1450 | 745 | 644 | 1260 | 695 | 566 | 37.3 |
| 2 melanoma | M30538 | 1393 | 1652 | 830 | 732 | 1523 | 781 | 742 | 49.0 |
| 3 melanoma | M30625 | 2080 | 1720 | 840 | 923 | 1900 | 882 | 1019 | 67.2 |
| 4 melanoma | M30848 | 1319 | 1423 | 712 | 704 | 1371 | 708 | 663 | 43.8 |
| 6 melanoma | M31230 | 2109 | 1771 | 721 | 960 | 1940 | 841 | 1100 | 72.6 |
| 7 melanoma | M31342 | 1405 | 1232 | 687 | 730 | 1319 | 709 | 610 | 40.3 |
| 8 melanoma | M31360 | 1843 | 1601 | 864 | 838 | 1722 | 851 | 871 | 57.5 |
| 13 melanoma | M32115 | 1956 | 1766 | 899 | 844 | 1861 | 872 | 990 | 65.3 |
| 14 melanoma | M32142 | 1945 | 2041 | 950 | 1036 | 1993 | 993 | 1000 | 66.0 |
| 16 melanoma | M32170 | 1934 | 1532 | 789 | 706 | 1733 | 748 | 986 | 65.1 |
| 17 melanoma | M32235 | 1749 | 1415 | 783 | 727 | 1582 | 755 | 827 | 54.6 |
| 18 melanoma | M32448 | 2316 | 2362 | 1044 | 1028 | 2339 | 1036 | 1303 | 86.0 |
| 19 melanoma | M32535 | 1748 | 2322 | 1054 | 965 | 2035 | 1010 | 1026 | 67.7 |
| 22 melanoma | M32936 | 1518 | 1516 | 812 | 744 | 1517 | 778 | 739 | 48.8 |
| 23 melanoma | M32942 | 1490 | 1544 | 826 | 823 | 1517 | 825 | 693 | 45.7 |
| 24 melanoma | M33031 | 1338 | 1463 | 986 | 794 | 1401 | 890 | 511 | 33.7 |
| 25 melanoma | M33090 | 1465 | 1330 | 705 | 863 | 1398 | 784 | 614 | 40.5 |
| 26 melanoma | M33092 | 1667 | 1674 | 743 | 745 | 1671 | 744 | 927 | 61.2 |
| 27 melanoma | M33178 | 1916 | 1845 | 915 | 924 | 1881 | 920 | 961 | 63.4 |
| 34 melanoma | M33957 | 1418 | 1246 | 688 | 619 | 1332 | 654 | 679 | 44.8 |
| 35 melanoma | M33987 | 1633 | 1552 | 807 | 672 | 1593 | 740 | 853 | 56.3 |
| 40 melanoma | M34338 | 1753 | 1610 | 822 | 764 | 1682 | 793 | 889 | 58.7 |
| 44 melanoma | M34710 | 1748 | 1818 | 685 | 779 | 1783 | 732 | 1051 | 69.4 |
| 48 melanoma | M34977 | 1432 | 1772 | 679 | 618 | 1602 | 649 | 954 | 62.9 |
| 50 melanoma | M35027 | 1284 | 1100 | 701 | 837 | 1192 | 769 | 423 | 27.9 |
| 56 melanoma | M35482 | 1269 | 1166 | 559 | 820 | 1218 | 690 | 528 | 34.9 |
| 65 melanoma | M36042 | 1518 | 1474 | 783 | 892 | 1496 | 838 | 659 | 43.5 |
| 71 melanoma | M36363 | 1332 | 1653 | 925 | 1003 | 1493 | 964 | 529 | 34.9 |
| 80 melanoma | M36963 | 1500 | 1595 | 731 | 890 | 1548 | 811 | 737 | 48.7 |
| 82 melanoma | M37072 | 1717 | 1714 | 912 | 857 | 1716 | 885 | 831 | 54.9 |

| | | | | | | | | | |
|---------------------------|--------|------|------|-----|------|------|-----|------|-------|
| 90 melanoma | M37621 | 1906 | 2097 | 927 | 1068 | 2002 | 998 | 1004 | 66.3 |
| 92 melanoma | M37649 | 1588 | 1309 | 734 | 963 | 1449 | 849 | 600 | 39.6 |
| 95 melanoma | M37877 | 921 | 1157 | 462 | 521 | 1039 | 492 | 548 | 36.1 |
| 96 melanoma | M38072 | 1168 | 1330 | 926 | 711 | 1249 | 819 | 431 | 28.4 |
| 105 melanoma | M38706 | 1473 | 1227 | 512 | 542 | 1350 | 527 | 823 | 54.3 |
| 107 melanoma | M38940 | 1354 | 1616 | 645 | 685 | 1485 | 665 | 820 | 54.1 |
| 108 melanoma | M38978 | 1999 | 2301 | 765 | 812 | 2150 | 789 | 1362 | 89.9 |
| 112 melanoma | M39083 | 1404 | 1474 | 712 | 732 | 1439 | 722 | 717 | 47.3 |
| 115 melanoma | M39412 | 2185 | 2010 | 912 | 942 | 2098 | 927 | 1171 | 77.3 |
| 126 melanoma | M40340 | 1490 | 1537 | 477 | 494 | 1514 | 486 | 1028 | 67.9 |
| 130 melanoma | M40898 | 2221 | 2034 | 643 | 760 | 2128 | 702 | 1426 | 94.1 |
| 134 melanoma | M41094 | 1212 | 1113 | 522 | 414 | 1163 | 468 | 695 | 45.9 |
| 136 melanoma | M41123 | 2233 | 2901 | 700 | 565 | 2567 | 633 | 1935 | 127.7 |
| 138 melanoma | M41360 | 1271 | 1134 | 593 | 475 | 1203 | 534 | 669 | 44.1 |
| 130 melanoma | M40898 | 2221 | 2034 | 643 | 760 | 2128 | 702 | 1426 | 94.1 |
| 134 melanoma | M41094 | 1212 | 1113 | 522 | 414 | 1163 | 468 | 695 | 45.9 |
| 136 melanoma | M41123 | 2233 | 2901 | 700 | 565 | 2567 | 633 | 1935 | 127.7 |
| 138 melanoma | M41360 | 1271 | 1134 | 593 | 475 | 1203 | 534 | 669 | 44.1 |
| 9 ovarian | M31393 | 1472 | 1595 | 902 | 754 | 1534 | 828 | 706 | 46.6 |
| 117 ovarian | M39616 | 1933 | 1352 | 645 | 614 | 1643 | 630 | 1013 | 66.9 |
| 124 ovarian adenocarcinor | M40327 | 1562 | 1435 | 628 | 502 | 1499 | 565 | 934 | 61.6 |
| 11 pancreatic | M31787 | 1509 | 1578 | 724 | 713 | 1544 | 719 | 825 | 54.5 |
| 73 pancreatic | M36494 | 1462 | 1243 | 573 | 648 | 1353 | 611 | 742 | 49.0 |
| 86 pancreatic | M37418 | 1243 | 1137 | 809 | 632 | 1190 | 721 | 470 | 31.0 |
| 30 pnacreatic | M33489 | 1916 | 1930 | 775 | 935 | 1923 | 855 | 1068 | 70.5 |
| 43 rectal | M34573 | 1302 | 1247 | 625 | 588 | 1275 | 607 | 668 | 44.1 |
| 47 rectal | M34868 | 1445 | 1196 | 685 | 634 | 1321 | 660 | 661 | 43.6 |
| 72 rectal | M36437 | 1537 | 1782 | 869 | 767 | 1660 | 818 | 842 | 55.6 |
| 89 rectal | M37576 | 1735 | 2126 | 940 | 827 | 1931 | 884 | 1047 | 69.1 |
| 139 rectal | M41374 | 876 | 856 | 495 | 424 | 866 | 460 | 407 | 26.8 |
| 139 rectal | M41374 | 876 | 856 | 495 | 424 | 866 | 460 | 407 | 26.8 |
| 5 renal cell carcinoma | M30974 | 1724 | 1990 | 687 | 911 | 1857 | 799 | 1058 | 69.8 |
| 21 renal cell carcinoma | M32912 | 1605 | 1422 | 745 | 747 | 1514 | 746 | 768 | 50.7 |
| 28 renal cell carcinoma | M33297 | 1590 | 1739 | 704 | 802 | 1665 | 753 | 912 | 60.2 |
| 29 renal cell carcinoma | M33403 | 1979 | 1897 | 768 | 789 | 1938 | 779 | 1160 | 76.5 |
| 33 renal cell carcinoma | M33927 | 1514 | 1708 | 759 | 658 | 1611 | 709 | 903 | 59.6 |
| 36 renal cell carcinoma | M33992 | 1867 | 1822 | 855 | 856 | 1845 | 856 | 989 | 65.3 |
| 39 renal cell carcinoma | M34219 | 1358 | 1535 | 738 | 637 | 1447 | 688 | 759 | 50.1 |
| 42 renal cell carcinoma | M34379 | 1647 | 1411 | 629 | 820 | 1529 | 725 | 805 | 53.1 |
| 45 renal cell carcinoma | M34749 | 1468 | 1885 | 872 | 779 | 1677 | 826 | 851 | 56.2 |

| | | | | | | | | | | |
|-----|----------------------|--------|------|------|------|-----|------|-----|------|-------|
| 49 | renal cell carcinoma | M35022 | 1885 | 1698 | 1001 | 936 | 1792 | 969 | 823 | 54.3 |
| 55 | renal cell carcinoma | M35380 | 1745 | 1931 | 969 | 833 | 1838 | 901 | 937 | 61.9 |
| 60 | renal cell carcinoma | M35658 | 2251 | 2426 | 791 | 746 | 2339 | 769 | 1570 | 103.7 |
| 61 | renal cell carcinoma | M35713 | 1492 | 1546 | 888 | 955 | 1519 | 922 | 598 | 39.4 |
| 66 | renal cell carcinoma | M36060 | 1488 | 1307 | 933 | 939 | 1398 | 936 | 462 | 30.5 |
| 70 | renal cell carcinoma | M36330 | 2800 | 2483 | 867 | 749 | 2642 | 808 | 1834 | 121.0 |
| 78 | renal cell carcinoma | M36787 | 1589 | 1540 | 904 | 756 | 1565 | 830 | 735 | 48.5 |
| 79 | renal cell carcinoma | M36812 | 2011 | 1660 | 710 | 658 | 1836 | 684 | 1152 | 76.0 |
| 81 | renal cell carcinoma | M37050 | 1519 | 1453 | 848 | 578 | 1486 | 713 | 773 | 51.0 |
| 84 | renal cell carcinoma | M37274 | 1402 | 1177 | 742 | 512 | 1290 | 627 | 663 | 43.7 |
| 85 | renal cell carcinoma | M37361 | 1317 | 1586 | 654 | 621 | 1452 | 638 | 814 | 53.7 |
| 93 | renal cell carcinoma | M37660 | 1501 | 1665 | 660 | 799 | 1583 | 730 | 854 | 56.3 |
| 97 | renal cell carcinoma | M38334 | 1582 | 1578 | 602 | 645 | 1580 | 624 | 957 | 63.1 |
| 100 | renal cell carcinoma | M38564 | 1882 | 1560 | 621 | 645 | 1721 | 633 | 1088 | 71.8 |
| 101 | renal cell carcinoma | M38585 | 1478 | 1206 | 542 | 561 | 1342 | 552 | 791 | 52.2 |
| 102 | renal cell carcinoma | M38677 | 1807 | 1965 | 745 | 748 | 1886 | 747 | 1140 | 75.2 |
| 104 | renal cell carcinoma | M38698 | 1279 | 1310 | 451 | 462 | 1295 | 457 | 838 | 55.3 |
| 110 | renal cell carcinoma | M39059 | 2678 | 2550 | 856 | 912 | 2614 | 884 | 1730 | 114.2 |
| 111 | renal cell carcinoma | M39067 | 1428 | 1343 | 645 | 668 | 1386 | 657 | 729 | 48.1 |
| 113 | renal cell carcinoma | M39127 | 2038 | 1840 | 912 | 912 | 1939 | 912 | 1027 | 67.8 |
| 114 | renal cell carcinoma | M39305 | 2125 | 2311 | 984 | 912 | 2218 | 948 | 1270 | 83.8 |
| 119 | renal cell carcinoma | M39884 | 1639 | 1232 | 465 | 485 | 1436 | 475 | 961 | 63.4 |
| 120 | renal cell carcinoma | M39921 | 1957 | 1799 | 703 | 712 | 1878 | 708 | 1171 | 77.3 |
| 121 | renal cell carcinoma | M39939 | 1228 | 1145 | 642 | 728 | 1187 | 685 | 502 | 33.1 |
| 122 | renal cell carcinoma | M40045 | 2018 | 1856 | 583 | 700 | 1937 | 642 | 1296 | 85.5 |
| 128 | renal cell carcinoma | M40696 | 1554 | 1542 | 670 | 728 | 1548 | 699 | 849 | 56.1 |
| 129 | renal cell carcinoma | M40705 | 1659 | 1671 | 620 | 637 | 1665 | 629 | 1037 | 68.4 |
| 132 | renal cell carcinoma | M41054 | 1457 | 1502 | 499 | 564 | 1480 | 532 | 948 | 62.6 |
| 133 | renal cell carcinoma | M41079 | 1133 | 1054 | 778 | 648 | 1094 | 713 | 381 | 25.1 |
| 140 | renal cell carcinoma | M41421 | 2555 | 2659 | 795 | 691 | 2607 | 743 | 1864 | 123.1 |
| 129 | renal cell carcinoma | M40705 | 1659 | 1671 | 620 | 637 | 1665 | 629 | 1037 | 68.4 |
| 132 | renal cell carcinoma | M41054 | 1457 | 1502 | 499 | 564 | 1480 | 532 | 948 | 62.6 |
| 133 | renal cell carcinoma | M41079 | 1133 | 1054 | 778 | 648 | 1094 | 713 | 381 | 25.1 |
| 140 | renal cell carcinoma | M41421 | 2555 | 2659 | 795 | 691 | 2607 | 743 | 1864 | 123.1 |
| 127 | sarcoma | M40404 | 1024 | 947 | 571 | 550 | 986 | 561 | 425 | 28.1 |
| 131 | synorial cell | M40909 | 2073 | 2503 | 786 | 816 | 2288 | 801 | 1487 | 98.2 |
| 131 | synorial cell | M40909 | 2073 | 2503 | 786 | 816 | 2288 | 801 | 1487 | 98.2 |
| 15 | thymoma | M32165 | 1598 | 1512 | 945 | 806 | 1555 | 876 | 680 | 44.9 |